

Claims

1. A truss structural member for providing screw type joint devices on both ends of a log, which have a fastening bolt engaged with a screw hole of connector nodes, comprising:

a log cut so as to form flat surfaces on butt ends thereof, a connector having a supporting hole which slidably holds the shank of said fastening bolt at the end of a node side thereof and a contacting surface which is seated on said butt end at the end of a counter-node side thereof, lag screws advanced against the log to fix said connector to the butt end of the log;

said connector having a first element with said supporting hole, occupying one half of a node side thereof, and a second element with said contacting surface, occupying another half of the node side thereof, which engage with each other;

said first element having an axial symmetrical part making a space to accommodate a part of said fastening bolt retractable through the supporting hole on the side of the counter-node thereof and a connecting threaded portion formed at the end of the counter-node side of said axial symmetrical part;

said second element being a metallic seat provided with bores as large as the threaded portion of said lag screw passable therethrough, which has a threaded part engaged with said connecting threaded portion on the node side thereof and one or plural annular thorns driven into the butt end under a pressure load on the counter-node side thereof; and

said screw type joint device having said fastening bolt and a sleeve for covering the fastening bolt, the bolt having a fastening threaded portion on the node side thereof and a stopper contacting an

internal end surface of said first element on the counter-node side thereof and the sleeve has a sleeve hole for transmitting rotational torque to the fastening bolt and for sliding the bolt in an axial direction thereof.

2. The truss structural member according to claim 1, further comprising:
an auxiliary thorny ring disposed to surround the neck of a lag screw on the contacting surface of the second element and the butt end of the log.
3. The truss structural member according to claim 2, wherein:
said auxiliary thorny ring is a dowel independent of said second element.
4. The truss structural member according to claim 2, wherein:
an auxiliary annular thorn and said auxiliary thorny ring are formed on the contacting surface of the second element in one united body.
5. The truss structural member according to any claim of 1 to 4, wherein:
said screw type joint device has a fastening bolt provided with a polygonal boss on the node side of the shank thereof away from said first element so as to transmit the rotational torque from the sleeve to the fastening bolt owing to inserting said boss into the sleeve hole.
6. The truss structural member according to claim 5, wherein:
a standard high tensile bolt is used as said fastening bolt, the bolt head being said stopper.

7. The truss structural member according to claim 6, wherein:

 said boss is formed by bonding a polygonal cylinder having a round bore in the center thereof, manufactured as a sole part, around the shank of said high tensile bolt.

8. The truss structural member according to claim 6, wherein:

 said boss is formed by bonding a polygonal cylinder having a threaded aperture in the center thereof, manufactured as a sole part, around the threaded end of the counter-node side of said fastening threaded portion after engaging with each other.

9. The truss structural member according to any of claims 5 to 8, wherein:

 the sleeve covering said boss is provided with a pin for preventing the sleeve from coming off a fastening bolt by contacting the pin to the end of the counter-node side of the boss.

10. The truss structural member according to any of claims 1 to 4, wherein:

 said screw type joint device has a sleeve provided with a slit extending along the longitudinal axis thereof and a fastening bolt provided with a rod extending in the radial direction thereof through said slit for transmitting rotational torque from the sleeve to the fastening bolt.

11. The truss structural member according to any of claims 1 to 10, further comprising:

 an elastic element biasing said fastening bolt toward a screw hole of the connector node disposed in the space for accommodating a

part of the fastening bolt retracted through the supporting hole.